CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

36-AA-0049

BOARD ORDER NO. 6-00-14
WDID NO. 6B360304004

BAKER

REVISED WASTE DISCHARGE REQUIREMENTS
FOR

SAN BERNARDINO COUNTY WASTE SYSTEMS DIVISIONS;
BAKER CLASS III LANDFILL

San Bernardino County

The California Regional Water Quality Control Board, Lahontan Region (Regional Board) finds:

1. Discharger

   For the purpose of this Regional Board Order (Order), the County of San Bernardino is referred to as the "Discharger."

2. Landfill

   The Baker Class III Landfill is the Landfill that stopped receiving waste in June 1997. For the purposes of this Order, the Baker Class III Landfill is referred to as the "Landfill."

3. Order History

   The Regional Board previously adopted Waste Discharge Requirements (WDRs) for the Landfill under Board Order No. 6-72-94, which was adopted on October 26, 1972. The Regional Board adopted Board Order No. 6-84-55 on May 11, 1984, which revised the WDRs. Board Order No. 6-93-100 was adopted on September 9; 1993, and amended the WDRs to incorporate the requirements of Title 40, Code of Federal Regulations, Parts 257 and 258 (Subtitle D) as implemented in the State of California under State Water Resources Control Board (SWRCB) Resolution No. 93-62. Board Order No. 6-95-32 revised the WDRs to require the Discharger to achieve compliance with the revised requirements of Article 5, Chapter 15, California Code of Regulations (CCR) (Chapter 15) and to incorporate requirements of the previously adopted Board Order amendment No. 6-93-100. This site is closed and is no longer being used for disposal of wastes.

4. Reason for Action

   The Regional Board is issuing Closure WDRs to require the Discharger to achieve compliance with the requirements of Section 20385(a-c), Section 20415(a-e), and Section 20420(a-k) CCR (Title 27, CCR). The site stopped receiving waste in June 1997. Final closure construction was conducted in the summer of 1998 in accordance with a closure plan dated April 28, 1997 that the Board staff found to be complete and technically adequate, on February 26, 1998.

   This Order shall remain in effect until it is determined there are no water quality problems, or threat of water quality problems.

5. Landfill Location

The Landfill is located approximately two miles southeast of the Community of Baker, San Bernardino County, within the NE/4 of Section 7, T13N, R9E, SBBM, as shown on Attachment "A," which is made a part of this Order.

6. Description of Landfill

The Landfill is an unlined landfill, which received approximately 10 tons of waste per day. Based on the quantity of waste received per day, the Landfill is a Small landfill as defined in Subtitle D. As such, Subtitle D requirements became effective for this Landfill on April 9, 1994. Regional Board staff have reviewed information submitted by the Discharger which illustrates the footprint of waste discharged as of April 9, 1994. The footprint documents the limits of waste which are exempt from Subtitle D requirements for composite liners, and is shown as Attachment "B", which is made a part of this Order.

7. Authorized Disposal Sites

The footprint of waste shown in Attachment "B" is the only authorized disposal site. The footprint of waste shown in Attachment "B" encompasses approximately 13 acres of the total 40-acre parcel.

8. Waste Classification

The Landfill received waste derived from the Community of Baker and the surrounding desert communities. The waste is defined in Sections 20220 and 20230, Title 27, CCR, as inert and non-hazardous solid waste, respectively. The waste is defined as municipal solid waste in Subtitle D.

9. Waste Management Unit Classification

Pursuant to Section 20260, Title 27, CCR, the Landfill is classified as a Class III waste management unit.

10. Water Quality Protection Standard

The WQPS consists of constituents of concern (including monitoring parameters), concentration limits, monitoring points, and the point of compliance. The standard applies over the active life of the Landfill, closure and post-closure maintenance period, and the compliance period. The constituents of concern, monitoring points, and point of compliance are described in Monitoring and Reporting Program 00-14, which is attached to and made a part of this Order.

11. Statistical Methods

Statistical analysis of monitoring data is necessary for the earliest possible detection of a statistically significant release of waste from the Landfill. Section 20420, Title 27 CCR require statistical data analysis. Monitoring and Reporting Program No. 00-14 includes general methods for statistical data analysis. This Order also includes a time schedule for the Discharger to submit site-specific statistical methods to be used for monitoring data analysis.

12. Detection Monitoring

Pursuant to Section 20385, Title 27, CCR, the Discharger has been conducting a Detection Monitoring Program (DMP). The current DMP has been designed to monitor the ground water for evidence of a release. A few volatile organic compounds (VOCs) have been detected in the ground water at this Landfill at ranges of 3.5-4 µg/l of dichlorodifluoromethane and trichlorofluoromethane.

13. Evaluation Monitoring

An Evaluation Monitoring Program (EMP) is required, pursuant to Section 20425, Title 27, CCR, which evaluates evidence of a release if detection monitoring and/or verification procedures indicate evidence of a release. Currently the Discharger is in the process of implementing an EMP to assess the nature of the ground water impacts.

14. Corrective Action

A Corrective Action Program (CAP) to remediate detected releases from the Landfill may be required pursuant to Section 20430, Title 27 CCR, should results of an EMP warrant a CAP.

15. Site Geology

Alluvial floodplain deposits of sand and gravel with interbeds of silt and clay underlie the site. Granitic bedrock outcrops at the site. The thickness of alluvium above the bedrock varies at the site from approximately 10 to 110 feet below ground surface.

16. Site Hydrogeology

Depth to ground water varies across the site from approximately 52 to 64 feet below ground surface. Ground water beneath the site flows in a westerly direction at a slope of 1.9 feet per mile. The ground water flow regime is complicated by the presence of bedrock at shallow depths in some areas.

17. Site Surface Hydrology and Storm Water Runoff

There is no perennial surface water flow at the site. Surface water during storm events flows from the site toward Soda Lake, which is a dry playa. All storm water from the Landfill is regulated under the state Amended General Industrial Activities Storm Water Permit.

18. Site Topography

Site topography is shown on Attachment "B", which is made a part of this Order.

19. Climatology

The precipitation in the area of the Landfill is approximately 3.6 inches annually. The evaporation rate is approximately 110 inches annually.

20. Land Uses

The land uses at and surrounding the Landfill consists of the following:

a. various maintained residences and commercial buildings in the Community of Baker;
b. open desert land; and
c. riparian and wildlife habitat at Soda Lake.

21. Closure and Post-Closure Maintenance

The Discharger has submitted a Final Closure and Post-Closure Monitoring Plan (CPCMP). The Final CPCMP generally proposes in place closure of the waste and an extended period of site monitoring. The Final CPCMP for the Baker Landfill consists of an alternative cover system to the prescriptive standard. The cover system is composed of a one-foot thick foundation layer composed of select soil materials, and a three and a half-foot thick layer of select soil that comprises the vegetative cover layer. The Discharger has demonstrated through an "alternative cover demonstration project" that the monolithic cover will meet or exceed the prescribed performance criteria and will be more economical for site closure than prescriptive standards. The monitoring media includes the unsaturated zone, ground water, and final cover materials. Pursuant to Board Resolution No. 6-91-938, the Final CPCMP was approved by the Executive Officer on May 9, 1994. This Order provides Regional Board approval of the Final CPCMP. The California Integrated Waste Management Board (CIWMB) approved the plan on October 24, 1994. This Order requires that the Discharger review the plan annually to determine if significant changes in the operation of the Landfill warrant an update of the plan.

22. Financial Assurance

The Discharger has provided documentation that a financial assurance fund has been developed for closure, post-closure maintenance, and potential corrective action requirements. The fund has been developed as a single entity for all landfills owned and/or operated by the County of San Bernardino. The fund meets the requirements of Sections 22247 and 22245, Title 27, CCR for financial assurance. This Order requires the Discharger to report the amount of money available in the fund as part of the annual report. This Order also requires that the Discharger demonstrate in an annual report that the amount of financial assurance is adequate, or increase the amount of financial assurance.

23. Receiving Waters

The receiving waters are the ground waters of the Soda Lake Hydrologic Subarea of the Baker Hydrologic Area of the Mojave Hydrologic Unit (Department of Water Resources Hydrologic Unit No. 628.82).

24. Lahontan Basin Plan

The Regional Board adopted a Water Quality Control Plan for the Lahontan Basin (Basin Plan) which became effective on March 31, 1995. This Order implements the Basin Plan.

25. Beneficial Ground Water Uses

The present and probable beneficial uses of the ground waters of the Soda Lake Hydrologic Subarea of the Baker Hydrologic Area of the Mojave Hydrologic Unit as set forth and defined in the Basin Plan are:

a. municipal and domestic supply;
b. agricultural supply;
c. industrial service supply; and
d. freshwater replenishment.

26. California Environmental Quality Act

These Closure WDRs govern an existing Landfill that the Discharger formerly operated. The project consists only of the inactive status of the closed Landfill and is therefore exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) in accordance with Section 15301 of the CEQA Guidelines.

27. Notification of Interested Parties

The Regional Board has notified the Discharger and all known interested agencies and persons of its intent to adopt Closure WDRs for the project.

28. Consideration of Interested Parties

The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

29. Storm Water Discharges

The Discharger has filed for coverage under the General Storm Water WDRs (Board Order No. 97-03-DWQ). The WDID No. assigned to that permit is 6B36S304004.

IT IS HEREBY ORDERED that the Discharger shall comply with the following:

I. DISCHARGE SPECIFICATIONS

A. Receiving Water Limitations

Discharges from the Landfill shall not cause the presence of the following substances or conditions in ground waters of the Mojave Hydrologic Unit:

1. any perceptible color, odor, taste, or foaming;

2. any presence of toxic substances in concentrations that individually, collectively, or cumulatively cause detrimental physiological response in humans, plants, animals, or aquatic life; and

3. the presence of constituents of concern in concentrations that exceed background levels.

II. REQUIREMENTS AND PROHIBITIONS

A. General

1. The discharge shall not cause a pollution as defined in Section 13050 of the California Water Code, or a threatened pollution.

2. The discharge shall not cause a nuisance as defined in Section 13050 of the California Water Code.

3. The discharge of solid wastes, leachate, or any other deleterious material to the ground waters of the Mojave Hydrologic Unit is prohibited.

4. The closed disposal site shall be protected from inundation, washout, or erosion of wastes and erosion of covering materials resulting from a storm or a flood having recurrence interval of once in 100 years.

5. Surface drainage from tributary areas, and internal site drainage from surface or subsurface sources shall not contact or percolate through solid wastes discharged at the site.

6. The exterior surfaces of the closed disposal site shall be graded to promote lateral runoff of precipitation and to prevent ponding.

7. Water used for dust control operations shall be limited to a minimal amount. A "minimal amount" is defined as that amount which will not result in runoff.

8. All water used for dust control shall not contain detected concentrations of VOCs.

9. The Discharger shall remove and relocate any waste, which is or has been discharged at the closed disposal site in violation of these requirements.

10. At any given time, the concentration limit for each constituent of concern shall be equal to the background value of that constituent.

11. The concentration limits for each constituent of concern shall not be exceeded.

B. Detection Monitoring Program

The Discharger shall maintain a DMP as required in Section 20420, Title 27, CCR.

C. Evaluation Monitoring Program

The Discharger shall maintain the EMP as long as there is statistically significant evidence of a release from the Landfill as required in Section 20425, Title 27, CCR.

D. Corrective Action Program

The Discharger shall institute a CAP when required pursuant to Section 20430, Title 27, CCR, should the results of the EMP warrant a CAP.

III. DATA ANALYSIS

A. Statistical Analysis

Statistical analysis of ground water and unsaturated zone DMP data shall be conducted. Analysis shall be conducted in accordance with statistical methods detailed in Monitoring and Reporting Program 00-14.

B. Nonstatistical Analysis

The Discharger shall determine whether there is significant physical evidence of a release from the Landfill. Significant physical evidence may include unexplained volumetric changes in the Landfill, unexplained stress in biological communities, unexplained changes in soil characteristics, visible signs of leachate migration, and unexplained water table mounding beneath or adjacent to the Landfill, or any other change in the environment that could reasonably be expected to be the result of a release from the Landfill.

C. Verification Procedures

1. The Discharger shall immediately initiate verification procedures as specified below whenever there is a determination by the Discharger or Executive Officer that there is statistical or non-statistical evidence of a release. If the Discharger declines the opportunity to conduct verification procedures, the Discharger shall submit a technical report as described below under the heading Technical Report Without Verification Procedures.

2. The verification procedure shall only be performed for the constituent(s) that has shown evidence of a release, and shall be performed for those monitoring points at which a release is indicated.

3. The Discharger shall either conduct a composite retest using data from the initial sampling event with all data obtained from the resampling event or shall conduct a discrete retest in which only data obtained from the resampling event shall be analyzed in order to verify evidence of a release.

4. The Discharger shall report to the Regional Board by certified mail the results of the verification procedure, as well as all concentration data collected for use in the retest within seven days of the last laboratory analysis.

5. The Discharger shall determine, within 45 days after completion of sampling, whether there is statistically significant evidence of a release from the Landfill at each monitoring point. If there is statistically significant evidence of a release, the Discharger shall immediately notify the Regional Board by certified mail. The Executive Officer may make an independent finding that there is statistical evidence of a release.

6. If the Discharger or Executive Officer verifies evidence of a release, the Discharger is required to submit, within 90 days of a determination that there is or was a release, a technical report pursuant to Section 13267(b) of the California Water Code. The report shall propose an evaluation monitoring **OR** make a demonstration to the Regional Board that there is a source other than the Landfill that caused evidence of a release.

D. Technical Report Without Verification Procedures

If the Discharger chooses not to initiate verification procedures, a technical report shall be submitted pursuant to Section 13267(b) of the California Water Code. The report shall propose an EMP, **OR**, attempt to demonstrate that the release did not originate from the Landfill.

IV. PROVISIONS

A. Rescission of Waste Discharge Requirements

Board Order No. 6-95-32 is hereby rescinded.

B. Closure Plan Approval

The implemented Final CPCMP dated April 28, 1997, which includes an alternative final cover is approved.

C. Standard Provisions

The Discharger shall comply with the "Standard Provisions for WDRs," dated September 1, 1994, in Attachment "C", which is made part of this Order.

D. Monitoring and Reporting

1. Pursuant to the California Water Code Section 13267(b), the Discharger shall comply with the Monitoring and Reporting Program No. 00-14 as specified by the Executive Officer.

2. The Discharger shall comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of the Monitoring and Reporting Program.

E. Completion Monitoring

The Final CPCMP shall be updated if there is a substantial change in operations. A report shall be submitted annually indicating conformance with existing operations.

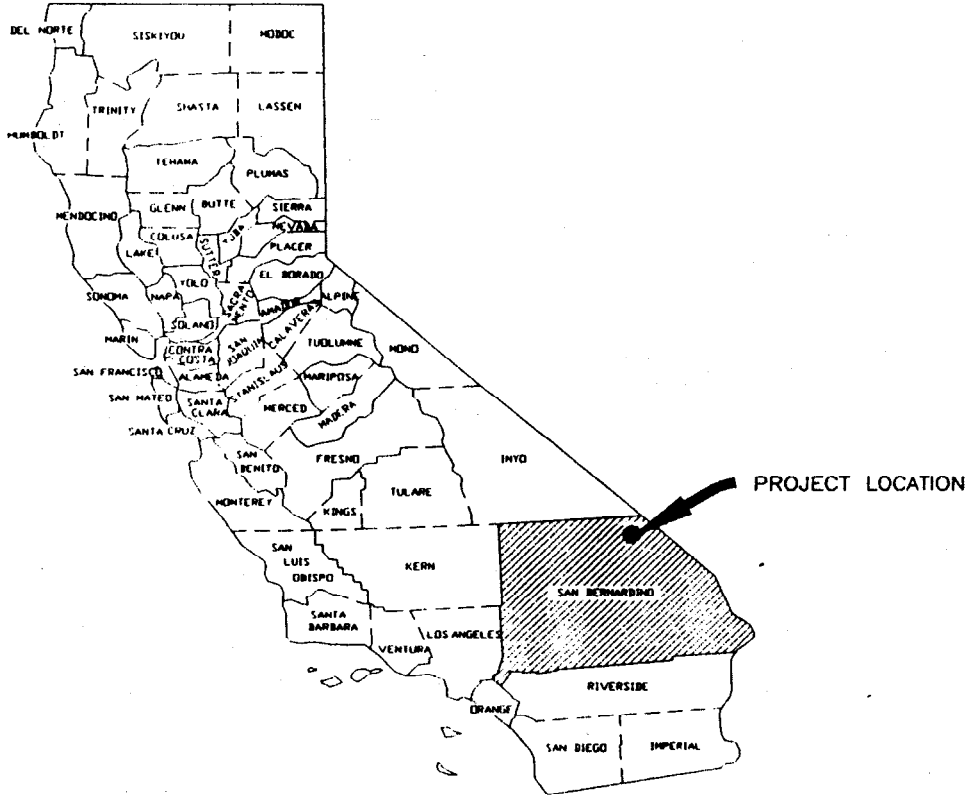
I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by California Regional Water Quality Control Board, Lahontan Region, on March 9, 2000.

Harold J. Singer

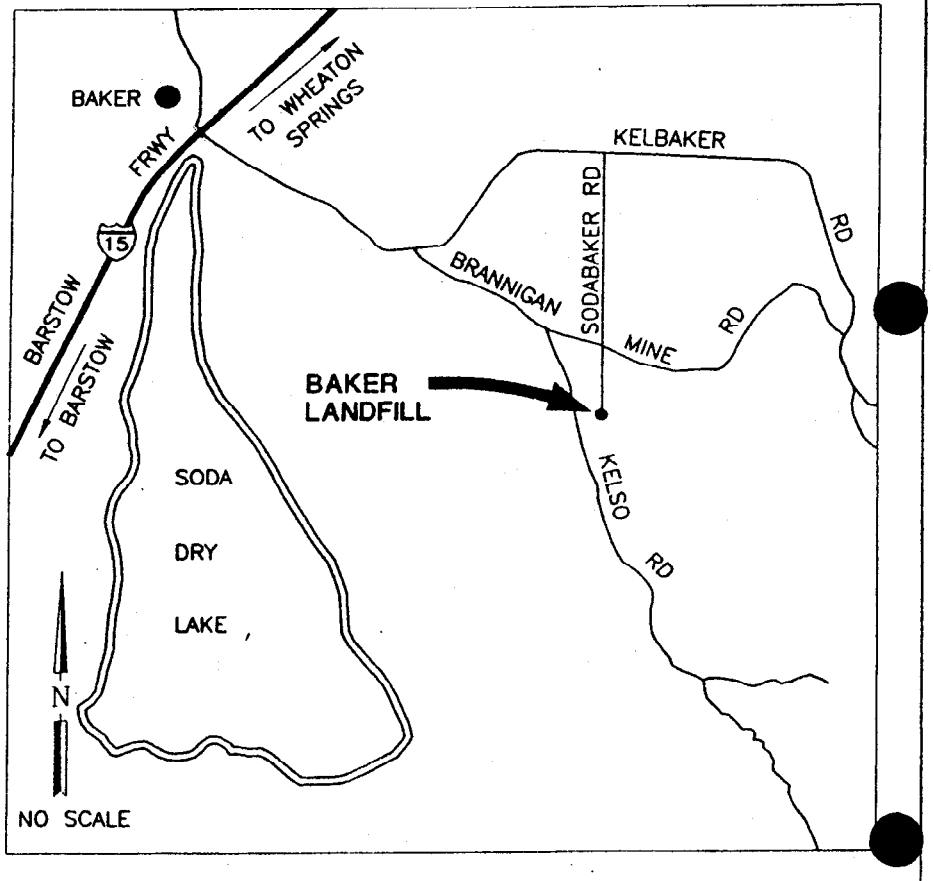
HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments:
A. Location Map
B. Landfill Footprint of Waste
C. Standard Provisions for Waste Discharge Requirements

3/2000 baker-wdr



VICINITY MAP



LOCATION MAP

FIGURE 1

BAS (909) 860-7777
BRYAN A. STIRRAT & ASSOCIATES
CIVIL AND ENVIRONMENTAL ENGINEERS
1360 VALLEY VISTA DRIVE DIAMOND BAR, CA 91765

BAKER LANDFILL

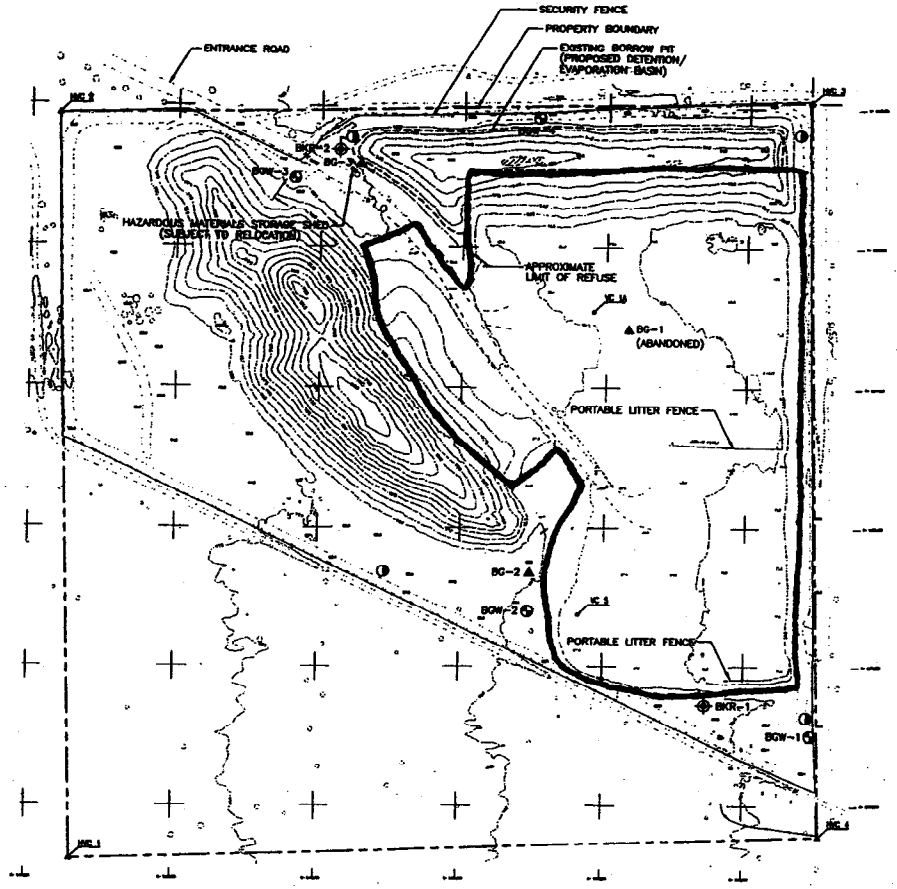
SITE VICINITY/LOCATION MAP

JOB NO.	9663-24
DATE	9-12-96
DRAWN BY	S.P.
CHECKED BY	L.O.

G:\DWG\NORCAL\BAKER\CLOSURE\020480B.DWG

ATTACHMENT A

ATTACHMENT B



LEGEND

- EXISTING/PROPOSED FINAL LIMITS OF WASTE/REFUSE
- APPROXIMATE LOCATION OF PROPERTY BOUNDARY
- EXISTING FENCE
- EXISTING INDEX CONTOURS
- GROUNDWATER MONITORING WELL
- EXISTING GAS MIGRATION MONITORING PROBE
- PROPOSED GAS MIGRATION MONITORING PROBE
- EXISTING VADOSE ZONE SOIL-PORE GAS MONITORING PROBE LOCATION
- HORIZONTAL/VERTICAL CONTROL MONUMENT
- VERTICAL CONTROL MONUMENT

ACREAGES

PROPERTY BOUNDARY = 40 ac
LIMIT OF REFUSE = 12 ac

N

100 50 0 100 200
SCALE IN FEET

CURRENT LANDFILL TOPOGRAPHY DATED SEPT. 8, 1995

REV.	DESCRIPTION	DATE	DRN	CHK	APPR
DATE 10-30-98	DRAWN BY: M.T.S./S.N.A. DESIGN BY: A.C.R./T.S.N.	CHECKED BY: M.A.C./T.L.S. APPROVED BY: B.A.S.			

REGISTERED PROFESSIONAL ENGINEER BRYAN A. STIRRAT 22631 Exp 12-31-97 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:

BRYAN A. STIRRAT, RCE 22631 DATE
EXP. 12-31-97

BAS (909) 860-7777
BRYAN A. STIRRAT & ASSOCIATES
CIVIL AND ENVIRONMENTAL ENGINEERS
1360 VALLEY VISTA DRIVE
DIAMOND BAR, CA. 91765

NORCAL/ San Bernardino, Inc.

COUNTY OF SAN BERNARDINO
WASTE SYSTEM DIVISION

BAKER LANDFILL
FINAL CLOSURE PLAN
SITE PLAN

DRAWING 2

PROJECT NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

STANDARD PROVISIONS
FOR WASTE DISCHARGE REQUIREMENTS

ATTACHMENT "C"

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

a. to enter upon premises in which an effluent source is located or in which any required records are kept;

b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements;

c. to inspect monitoring equipment or records; and

d. to sample any discharge.

2. Reporting Requirements

a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.

b. Pursuant to California Water Code Section 13260(c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not limited to, all significant soil disturbances.

c. The Owners/Discharger of property subject to Waste Discharge Requirements shall be considered to have a continuing responsibility for ensuring compliance with applicable Waste Discharge Requirements in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the Waste Discharge Requirements shall be reported to the Regional Board. Notification of applicable Waste Discharge Requirements shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.

d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing and correct that information.

e. Reports required by the Waste Discharge Requirements, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1,000) for each day of violation.

f. If the Discharger becomes aware that their Waste Discharge Requirements (or permit) is no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their Waste Discharge Requirements (or permit) be rescinded.

3. Right to Revise Waste Discharge Requirements

The Regional Board reserves the privilege of changing all or any portion of the Waste Discharge Requirements upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the Waste Discharge Requirements may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and reissuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the Waste Discharge Requirements which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the Waste Discharge Requirements. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the Waste Discharge Requirements.

7. Waste Discharge Requirement Actions

The Waste Discharge Requirements may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the Waste Discharge Requirements conditions.

8. Property Rights

The Waste Discharge Requirements do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the Waste Discharge Requirements including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the Waste Discharge Requirements shall kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the Waste Discharge Requirements are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from disposal/treatment facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operator. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.

b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

a. All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

MONITORING AND REPORTING PROGRAM NO. 00-14
WDID NO. 6B360304004

FOR

SAN BERNARDINO COUNTY WASTE SYSTEMS DIVISIONS;
BAKER CLASS III LANDFILL

San Bernardino County

I. WATER QUALITY PROTECTION STANDARD

A. Ground Water

1. Point of Compliance and Monitoring Points

The Point of Compliance as defined in Section 20405, Title 27, California Code of Regulations (CCR) is "a vertical surface located at the hydraulically downgradient limit of the waste management unit that extends through the uppermost aquifer underlying the unit". Ground water monitoring wells have been installed at monitoring points upgradient of the Landfill and at the Point of Compliance as part of the Detection Monitoring Program (DMP). The locations of the ground water monitoring wells are illustrated on Attachment "A", which is made part of this Monitoring and Reporting Program.

2. Monitoring Parameters and Constituents of Concern

The monitoring parameters are the metal surrogates chloride, sulfate, nitrate as nitrogen, total dissolved solids, and volatile organic constituents as defined by Appendix I of 40 CFR, Part 258. The constituents of concern are the monitoring parameters and those constituents listed in Appendix II of 40 CFR, Part 258.

3. Concentration Limits

a. The Discharger has collected background water quality data for the monitoring parameters contained in this Monitoring and Reporting Program.

b. The concentration limits for each man-made organic constituent which is not proven to have originated from a source other than the Landfill is the laboratory detection limit for that constituent.

B. Unsaturated Zone

1. Monitoring Points

An unsaturated zone monitoring currently exists at the site, composed of three soil-gas probes. The locations of the soil-gas probes are shown on Attachment "A" of this Monitoring and Reporting Program.

2. Monitoring Parameters and Constituents of Concern

The monitoring parameters for soil gas are the gases methane, carbon dioxide, oxygen, and nitrogen. The constituents of concern are the monitoring parameters and the volatile organic constituents listed under the laboratory analytical method EPA T014.

3. Concentration Limits

The concentration limits for all constituents of concern in soil gas shall be the method detection limit. The monitoring parameters shall not be required to have concentration limits because these parameters exist naturally in soil gas and development of background concentrations would be technically infeasible.

II. MONITORING

A. Detection Monitoring

A DMP has been developed by the Discharger as required by Sections 20385, 20415 and 20420, Title 27, CCR. A monitoring report shall be submitted semi-annually which reports the results of ground water and unsaturated zone monitoring conducted in accordance with the DMP. Monitoring shall be completed as follows:

1. Ground Water

a. Monitoring Points

Wells BGW-2, BGW-3 and BGW-4 are utilized as monitoring points for detection monitoring at the point of compliance. Well BGW-1 is utilized for background water quality monitoring. The ground water monitoring well locations are shown in Attachment "A" of this Monitoring and Reporting Program.

b. Monitoring Parameters

Ground water samples shall be collected and submitted for laboratory analysis at all monitoring points semi-annually for the monitoring parameters listed in this Monitoring and Reporting Program.

c. Constituents of Concern

Ground water samples shall be collected and submitted for laboratory analysis at all monitoring points once every five years for all constituents of concern listed in this Monitoring and Reporting Program.

d. Aquifer Characteristics

The parameters listed in Table 1.a. shall be calculated and reported in tabular form semi-annually. Include a figure illustration of the information listed in Table 1.b.

Table No. 1.a.
Ground and Surface Water Field Measurements

Parameter	Units
Depth to Ground Water	feet bgs
Static Water Level	feet above mean sea level
Electrical Conductivity	micromhos/cm
pH	pH Units
Temperature	deg. F or C
Turbidity	NTUs

Table 1.b.
Ground Water Calculations

Parameter	Units
Slope of Ground Water Gradient	ft/mile
Direction of Ground Water Gradient	degrees
Velocity of Ground Water Flow	feet/year

e. Cover Monitoring

The Discharger has installed a final cover over the closed Landfill. The cover has been vegetated and graded to a slope, which is intended to promote runoff and prevent ponding. The Discharger shall monitor and report **annually** on the condition of the cover to ensure the integrity of the cover and evaluate the cover's capability to promote runoff and prevent ponding.

2. Unsaturated Zone

Currently the Landfill has an unsaturated zone monitoring system. The system consists of three soil gas probes (BG-1, BG-2 and BG-3). The locations are included in Attachment "A" of this Monitoring and Reporting Program. The sampling frequency for soil gas constituents of concern is the same as listed above for all ground water monitoring parameters.

III. DATA ANALYSIS

A. General Statistical Analysis Method

The report titled "Statistical Analysis of Ground Water Monitoring Data at RCRA Facilities" (U.S. EPA, 1989), shall be used to select the statistical test to use for comparing detection monitoring well data to background monitoring data. If more than 50 percent of the observations in the detection monitoring wells are below the detection limit, then the Test of Proportions will be used. If more than 50 percent are above the detection limit, then a One-Way Analysis of Variance (ANOVA) will be used (i.e., Bartlett's Test for Equality of Variances). For multiple well computations the computed F Statistic will be compared to the tabulated F Statistic at the five (5) percent significance level. If the calculated F value exceeds the tabulated value, then the hypothesis of equal means will be rejected. The Bonferroni t-Statistics will be computed to determine if the significant F is due to differences between background and compliance wells at the five (5) percent significance level.

B. Site Specific Statistical Analysis Method

This Order includes a time schedule for the Discharger to propose methods for site-specific data statistical analysis. The Executive Officer may approve statistical methods, which are different than the general methods listed in this Monitoring and Reporting Program provided that such methods are capable of determining a statistically significant release from the Landfill.

C. Nonstatistical Method

In accordance with this Order, evaluation monitoring will be initiated without statistical verification if there is significant physical evidence of a release. Physical evidence can include time series plots, vegetation loss, or soil discoloration. Each semi-annual report shall comment on these physical elements.

IV. REPORTING REQUIREMENTS

A. Scheduled Reports To Be Filed With The Regional Board

The following periodic reports shall be submitted to the Regional Board as specified below:

Semi-Annual Detection Monitoring Reports

1. Results of sampling and laboratory analysis of ground water and soil gas.

2. An Executive Summary shall accompany each report. The summary shall include a discussion of any requirement violations found since the last report was submitted, and shall describe actions taken or planned for correcting those violations.

3. If the Discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting this schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal.

4. For each monitored ground water body, a description and graphical presentation of the velocity and direction of ground water flow under/around the Unit, based upon water level elevations taken during the collection of the water quality data submitted in the report.

5. A map or aerial photograph showing the locations of vadoze zone and ground water monitoring points.

6. The Post-Closure Maintenance Report shall contain a description of the conditions of the cover materials. Specifically, comments regarding any subsidence or soil cover washouts, which have occurred, and the capability of the cover to promote runoff and prevent ponding should be included. In the case where subsidence, washouts or other damage to the cover is noted, the report shall indicate the actions taken to repair cover material so that the event will not reoccur.

B. Unscheduled Reports To Be Filed With The Board

1. Notice of Tentative Release

Should the appropriate statistical or non-statistical data analysis indicate, for a given constituent of concern, that a release is tentatively identified, Discharger shall:

a. Immediately notify the Regional Board verbally as to the monitoring point(s) and constituent(s) or parameter(s) involved;

b. Provide written notification by certified mail within seven days of such determination (Section 20420(j), Title 27, CCR). The notification should indicate the Discharger's intent to conduct verification sampling, initiate evaluation monitoring procedures, or demonstrate that a source other than the Landfill is responsible of the release.

c. If the Discharger chooses to attempt to demonstrate that a source other than the Landfill is responsible for the release, the Discharger shall submit a supporting technical report within 90 days of detection of the release.

2. Evaluation Monitoring

The Discharger shall, within 90 days of verifying a release, submit a technical report pursuant to Section 13267(b) of the California Water Code proposing an Evaluation Monitoring Program (EMP). If the Discharger decides not to conduct verification procedures, or decides not to make a demonstration that a source other than the Landfill is responsible for the release, the release will be considered verified.

3. Engineering Feasibility Study Report

The Discharger shall submit a Technical Report by **May 30, 2000** discussing conclusions and recommendations from the DMP, and the EMP. The report shall include an Engineering Feasibility Study along with a proposed CAP or recommend a return to DMP in accordance with Title 27, Section 20425.

C. General Provisions

The Discharger shall comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of this Monitoring and Reporting Program.

D. Submittal Periods

Semi-annual monitoring reports shall be submitted to the Regional Board on the **30th day of the month following the semester**.

E. Annual Report

On or before **January 31, 2001**, and on **January 31** every year thereafter the Discharger shall submit an annual report to the Regional Board for the period January to December. This report shall include the items described in the General Provisions for Monitoring and Reporting (Attachment B).

F. Financial Assurance

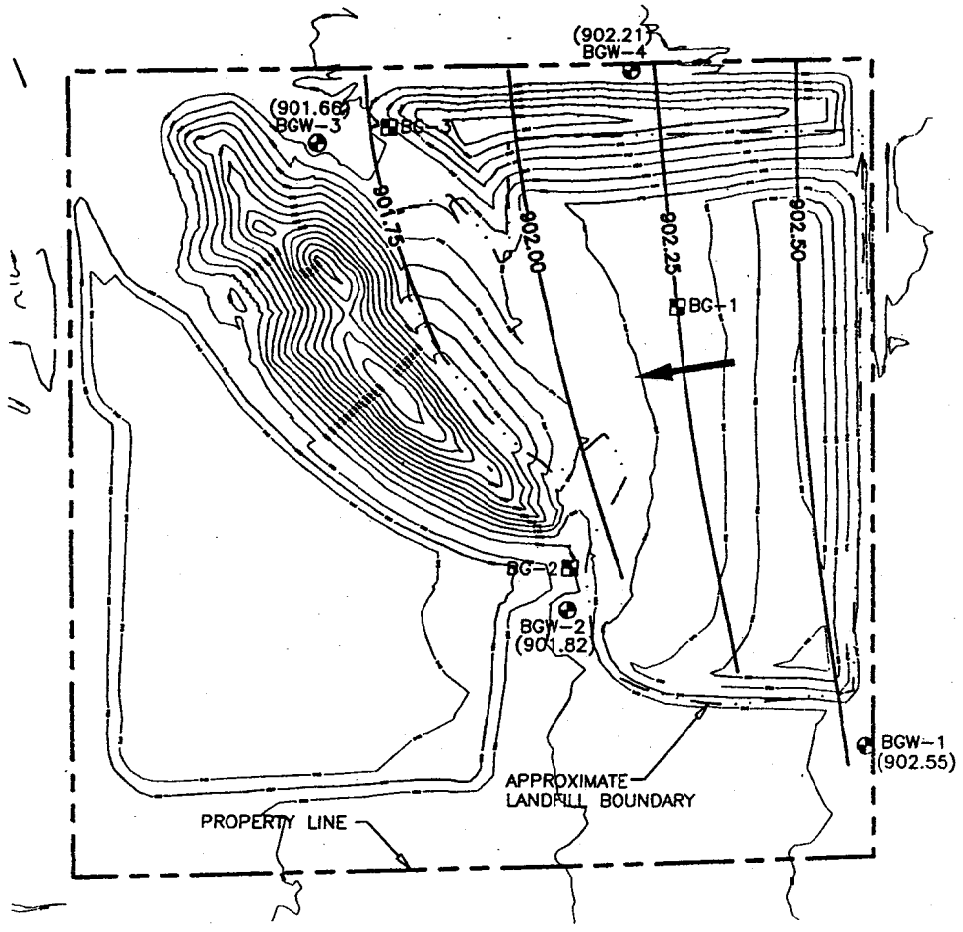
On or before **January 31, 2001**, and before **January 31** every year thereafter the Dischargers shall submit an annual financial assurance report to the Regional Board. This report shall summarize the amount of money available in the fund. This report should also provide a demonstration that the amount of financial assurance is adequate, or the need to increase the amount of financial assurance based on inflation or other factors.

Ordered by: Harold J. Singer Dated: March 9, 2000

HAROLD J. SINGER
EXECUTIVE OFFICER

Attachment: A. Location of ground water monitoring points
B. General Provisions for Monitoring and Reporting

3/2000 baker-mrp



EXPLANATION:

BGW-1 (902.55) — GROUNDWATER MONITORING WELL LOCATION (GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL)

BG-1 — SOIL-PORE GAS MONITORING PROBE LOCATION

CONTOUR LINE SHOWING GROUNDWATER POTENTIOMETRIC SURFACE ELEVATIONS (CONTOUR INTERVAL = 0.25 FEET)

DIRECTION OF GROUNDWATER FLOW

N

GRAPHIC SCALE

200 0 100 200 400

(IN FEET)

1 inch = 200 ft.

REFERENCE:

SAN BERNARDINO COUNTY WASTE SYSTEM DIVISION, CAD MAP AS OF JULY 1998.

FIGURE 6-1

AUGUST 1999 GROUNDWATER EQUIPOTENTIAL CONTOURS
WATER QUALITY MONITORING REPORT
THIRD QUARTER (SUMMER) 1999
BAKER SANITARY LANDFILL
SAN BERNARDINO COUNTY, CA

GeoLogic Associates
Geologists, Hydrogeologists, and Engineers

DRAWN BY:	DATE:	JOB NO.
VL	SEPTEMBER 1999	9975

ATTACHMENT A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

GENERAL PROVISIONS
FOR MONITORING AND REPORTING

ATTACHMENT B

1. SAMPLING AND ANALYSIS

a. All analyses shall be performed in accordance with the current edition(s) of the following documents:

i. Standard Methods for the Examination of Water and Wastewater
ii. Methods for Chemical Analysis of Water and Wastes, EPA

b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board. Specific methods of analysis must be identified on each laboratory report.

c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The method used shall also be reported. If methods other than USEPA approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.

d. The Discharger shall establish chain-of-custody procedures to ensure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.

e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall ensure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.

f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.

g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

2. OPERATIONAL REQUIREMENTS

a. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be obtained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

3. REPORTING

a. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time and submit a timetable for correction.

b. Pursuant to California Water Code Section 13267(b), all sampling shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Regional Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.

d. Monitoring reports shall be signed by:

i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;

ii. In the case of a partnership, by a general partner;

iii. In the case of a sole proprietorship, by the proprietor;

iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

e. Monitoring reports are to include the following:

i. Name and telephone number of individual who can answer questions about the report.

ii. The Monitoring and Reporting Program Number.

iii. WDID Number.

f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1,000) for each day of violation under Section 13268 of the Water Code.